

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

APPLICANT/APPELLANT: Rohit Chandra  
APPLICATION NO.: 10/776,100  
FILING DATE: February 10, 2004  
TITLE: Network Traffic Monitoring for Search Popularity Analysis  
EXAMINER: Ranodhi N. Serrao  
GROUP ART UNIT: 2141  
ATTY. DKT. NO.: 22501-08686

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**APPEAL BRIEF**

Sir:

This Appeal Brief is hereby filed timely within 2 months from the filing of the Notice of Appeal on January 4, 2007, together with the fee of \$250 required under 37 C.F.R. §41.20(b)(2).

**Real Party in Interest**

The subject patent application is owned by Narus, Inc.

**Related Appeals and Interferences**

There are no prior or pending appeals, interferences, or judicial proceedings known to the appellant, the appellant's legal representative, or the assignee, which may be related to,

directly affect, be directly affected by, or have a bearing on the Board's decision in this pending appeal.

### **Status of Claims**

Claims 12-27, 38-41, 43 and 48 stand finally rejected in a Final Office Action mailed on October 6, 2006.

Claims 1-11, 28-37, 42, and 44-47 were previously canceled in an amendment filed on January 19, 2006.

Appellants appeal from the final rejection of all the finally rejected claims 12-27, 38-41, 43 and 48, which are set forth in an appendix attached hereto.

### **Status of Amendments**

Applicant has not filed any amendment subsequent to the final rejection.

### **Summary of Claimed Subject Matter**

Independent claim 12 defines a search system for ranking Internet search results based upon popularity of web pages on a network (see e.g., page 5, lines 7-9 of the specification, page 8, lines 14-16 of the specification, Fig. 2 (system 200)). The search system of claim 12 comprises:

a plurality of monitoring devices placed in the network, the monitoring devices monitoring packets traversing the network and extracting information on the packets (see e.g, page 5, lines 19 – page 6, line 4 of the specification, page 8, line 17 – page 9, line 5 of the specification, page 9, lines 17 – page 11, line

10 of the specification, page 16, lines 6-9 of the specification, Fig. 2 (monitoring device 204), Fig. 3 (monitoring device 204), Fig. 7 (step 708)); a processing module coupled to the monitoring devices and receiving the extracted information from the monitoring devices, the processing module analyzing the extracted information and determining the popularity of the web pages based upon the extracted information, the popularity of the web pages being proportionate to actual number of visits to the web pages as indicated by the extracted information (see e.g., page 5, lines 12-15 of the specification, page 6, lines 4-7 of the specification, page 8, lines 17-20, page 9, lines 6-12 of the specification, page 18, lines 3-5 of the specification, page 18, line 19 – page 19, line 9 of the specification, Fig. 2 (processing module 206), Fig. 7 (steps 712, 714)); and a search engine for receiving search terms and retrieving web pages containing the search terms, the search engine ranking the web pages at least in part based upon the popularity of the retrieved web pages (see e.g., page 5, lines 15-18 of the specification, page 6, lines 7-9 of the specification, page 9, lines 11-12 of the specification, page 19, line 14 – page 20, line 2 of the specification, Fig. 2 (search engine 208), Fig. 8 (steps 804, 806, 808, 810, 812)).

Dependent claim 23 is dependent from claim 12, and further recites that the processing module maintains a plurality of counters corresponding to a URL and increments a count of one of the counters if the extracted information indicates that the web page corresponding to the URL was visited by a client device located in a geographical location corresponding to the counter of which the count was incremented, where the count indicates the number of visits to

the web page from client devices in the corresponding geographical location (see e.g., page 19, lines 1-19 of the specification, page 21, lines 14-19 of the specification).

Independent claim 38 defines a method for ranking Internet search results based upon popularity of web pages (see e.g., page 5, lines 7-9 of the specification, page 19, lines 10-13 of the specification, Fig. 8). The method of claim 38 comprises:

receiving a search term (see e.g., page 19, line 14 of the specification, Fig. 8 (step 804));

performing search of web pages on the Internet based upon the received search term (see e.g., page 19, line 15-16 of the specification, Fig. 8 (step 806));

retrieving a plurality of web pages containing the search term (see e.g., page 19, line 15-16 of the specification, Fig. 8 (step 806)); and

ranking the web pages at least in part based upon the popularity of the retrieved web pages (see e.g., page 19, lines 16 – page 20, line 2 of the specification, Fig. 8 (steps 808, 810, 912)), the popularity of the retrieved web pages being determined based upon information extracted from packets traversing the Internet and being proportionate to actual number of visits to the web pages as indicated by the extracted information (see e.g., page 5, lines 12-15 of the specification, page 6, lines 4-7 of the specification, page 9, lines 6-12 of the specification, page 18, line 19 – page 19, line 9 of the specification, Fig. 7 (steps 712, 714)).

Independent claim 43 is a means plus function claim permitted under 35 U.S.C. §112, sixth paragraph, and defines a search system for ranking Internet search results based upon popularity of web pages (see e.g., page 5, lines 7-9 of the specification, page 8, lines 14-16 of

the specification, Fig. 2 (system 200). The search system of claim 43 comprises:

a plurality of monitoring means placed in a network for monitoring packets traversing the network and extracting information on the packets (see e.g., Fig. 2 (monitoring device 204) as the corresponding structure, Fig. 3 (monitoring device 204) as the corresponding structure, page 5, line 19 – page 6, line 4 of the specification, page 8, line 17 – page 9, line 5 of the specification, page 9, line 17 – page 11, line 10 of the specification, page 16, lines 6-9 of the specification, Fig. 7 (step 708));

processing means coupled to the monitoring means for receiving the extracted information from the monitoring devices, analyzing the extracted information, and determining the popularity of the web pages based upon the extracted information, the popularity of the web pages being proportionate to actual number of visits to the web pages (see e.g., Fig. 2 (processing module 206) as the corresponding structure, page 5, lines 12-15 of the specification, page 6, lines 4-7 of the specification, page 8, lines 17-20 of the specification, page 9, lines 6-12 of the specification, page 18, lines 3-5 of the specification, page 18, line 19 – page 19, line 9 of the specification, Fig. 7 (steps 712, 714)); and

search engine means for receiving search terms and retrieving web pages containing the search terms, the search engine means ranking the web pages at least in part based upon the popularity of the retrieved web pages (see e.g., Fig. 2 (search engine 208) as the corresponding structure, page 5, lines 15-18 of the specification, page 6, lines 7-9 of the specification, page 9, lines 11-12 of the

specification, page 19, line 14 – page 20, line 2 of the specification, Fig. 8 (steps 804, 806, 808, 810, 812)).

Independent claim 48 defines a search system comprising:

a plurality of monitoring devices placed in the network, the monitoring devices

monitoring packets traversing the network and extracting information on the packets (see e.g, page 5, line 19 – page 6, line 4 of the specification, page 8, line 17 – page 9, line 5 of the specification, page 9, line 17 – page 11, line 10 of the specification, page 16, lines 6-9 of the specification, page 20, line 18 – page 21, line 2 of the specification, Fig. 2 (monitoring device 204), Fig. 3 (monitoring device 204), Fig. 7 (step 708)), Fig. 10 (step 1004));

a processing module coupled to the monitoring devices and receiving the extracted information from the monitoring devices, the processing module analyzing the extracted information and determining the popularity of the links from a first web page to a plurality of second web pages based upon the extracted information, the popularity of each of the links being proportionate to number of times each of the links is actually traversed as indicated by the extracted information (see e.g., page 5, lines 9-12 of the specification, page 6, lines 10-16 of the specification, page 8, lines 17-20 of the specification, page 9, lines 6-12 of the specification, page 18, lines 3-5 of the specification, page 21, lines 3-5 of the specification, Fig. 2 (processing module 206), Fig. 7 (steps 712, 714)), Fig. 10 (step 1006); and

a search engine for receiving search terms and retrieving web pages containing the search terms, the search engine propagating a score of the first web page to

the second web pages to which the first web page is linked in proportion to the popularity of links from the first web page to each of the second web pages (see e.g., page 6, lines 16-21 of the specification, page 9, lines 11-12 of the specification, page 19, line 14 – page 20, line 2 of the specification, page 21, lines 5-7 of the specification, Fig. 2 (search engine 208), Fig. 8 (steps 804, 806, 808), Fig. 10 (step 1010)).

**Grounds of Rejection to be Reviewed on Appeal**

A. Claims 12, 22, 26, 27, 38, 43, and 48 were rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth (US Patent No. 6,763,362) and Tams (US Patent No. 6,279,037).

B. Claims 13-15 and 39-41 were rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams as applied to claim 12 and further in view of Bharat (US Patent No. 6,526,440).

C. Claims 16-17 were rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams as applied to claim 12 and further in view of Vo (US Patent Application Publication No. 2003/0229692).

D. Claims 18-20 were rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams as applied to claim 12 and further in view of Pulley (US Patent Application Publication No. 2002/0087679).

E. Claim 23 was rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams as applied to claim 12 and further in view of Matsliach (US Patent No. 6,879,994).

F. Claim 24 was rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams in view of Matsliach as applied to claims 12 and 23, and further in view of Pulley.

G. Claims 21 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over McKeeth and Tams in view of Matsliach as applied to claims 12 and 23, and further in view of Schm (U.S. Patent Application Publication No. 2005/0021731).

Each of these obviousness rejections is improper because the combinations of the cited references do not teach or suggest the claimed subject matter. In particular, the Examiner has not established a *prima facie* basis for obviousness. Each of these obviousness rejections is presented for review in this appeal.

### **Argument**

#### **A. Rejections of claims 12, 22, 26, 27, 38, 43, and 48 under 35 U.S.C. §103**

In paragraphs 7-13 on pages 4-8 of the Final Office Action mailed on October 6, 2006, claims 12, 22, 26, 27, 38, 43, and 48 were rejected as being obvious over McKeeth (US Patent No. 6,763,362) and Tams (US Patent No. 6,279,037). This rejection is traversed.

Independent claim 12 recites “...monitoring packets traversing the network and extracting information on the packets...” and “...the popularity of the web pages being proportionate to actual number of visits to the web pages as indicated by the extracted information...”

Independent claim 38 recites “...the popularity of the retrieved web pages being determined based upon information extracted from packets traversing the Internet and being proportionate to actual number of visits to the web pages as indicated by the extracted information.”



Independent claim 43 also recites “...monitoring packets traversing the network and extracting information on the packets...” and “...determining the popularity of the web pages based upon the extracted information, the popularity of the web pages being proportionate to actual number of visits to the web pages...”

Independent claim 48 also recites “...monitoring packets traversing the network and extracting information on the packets...” and “...the popularity of the each of the links being proportionate to number of times each of the links is actually traversed as indicated by the extracted information...”

In summary, independent claims 12, 38, 43, and 48 variously recite determining the popularity of the web pages or links using information extracted from packets actually traversing the network, where the popularity is proportionate to actual number of visits to the web pages.

McKeeth fails to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network. While McKeeth mentions the term “popularity” of a link or a web site, the “popularity” of a link or web site in McKeeth is not determined from information extracted from packets traversing the network. Rather, McKeeth merely discloses determining the “popularity” of a link or web site by counting how many times that link was selected using a redirection counter at the search engine server (which stores the source search result that contains the links) or by counting how many times the web site was visited using a counter at that destination web site. *See McKeeth, col. 7, line 35 to col. 8, line 40.* Thus, the “popularity of links” in McKeeth is merely an indication of how many times a search engine selects the link as a search result in response to user queries, or how many times a user accessed a document associated with a link,

or how many times a site was visited as determined by a counter on that site. Such popularity in McKeeth is determined using counters at the source search result document including the links or at the destination web page, as opposed to packet information extracted from the packets actually traversing the network. In contrast, the popularity of the web pages or links as variously recited in claims 12, 38, 43, and 48 is determined from information extracted from packets actually traversing the network, which is different from counters at the source search result or the destination web site.

The inventions of claims 12, 38, 43, and 48 have significant advantages over McKeeth. First, because the popularity of links in McKeeth is determined based on the number of times the link is accessed only from a particular search engine, it is impossible for the popularity of links in McKeeth to reflect how many times the link was selected in, for example, other search engines outside that particular search engine, and thus the popularity of the link in McKeeth cannot indicate the accurate, total number of times the link was selected by all search engines. In contrast, the inventions of claims 12, 38, 43, and 48 enable determining the true popularity of a web site reflecting the number of times the web site was visited by various Internet traffic even outside a particular search engine, because the popularity is determined based upon information extracted from the packets actually traversing the Internet, rather than from information merely on a particular search engine. Second, because the popularity of links in McKeeth is determined based on how many times a site was visited as determined by a counter on that particular site, such popularity information would not be available to the search engine itself or other Internet entities external to that particular site, unless the popularity information is provided from that particular site maintaining the count to the search engine or other Internet entities external to that site. In contrast, the inventions of claims 12, 38, 43, and 48 enable

determining the popularity of a web page without obtaining such popularity information from, or even communicating with, that particular web site, because the popularity information is determined based upon information extracted from the packets actually traversing the Internet (which is already external to that web site).

Tams merely discloses a network traffic probe collecting network traffic data in general, but fails to disclose or suggest using the collected network traffic data to determine the popularity of a web page, as recited in claims 12, 38, 43, and 48. *Tams*, col. 2, lines 13-28; col. 10, lines 4-18. Tams nowhere suggests that the network traffic probe analyzes the collected network traffic data to determine the popularity of a particular web page for use in ranking Internet search results.

The 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs on pages 2-3 of the Final Office Action states that *prima facie* obviousness has been allegedly established because Tams is cited for teaching extracting information from packets traversing the network and McKeeth is cited for teaching determining the popularity of a web page for use in ranking Internet search results. However, even the combination of McKeeth with Tams still does not disclose determining the popularity of the web pages based upon or as indicated by information extracted from the packets actually traversing the network. McKeeth merely mentions the popularity of web pages determined by different methods at the source search engine or destination web site, and Tams merely discloses collecting network traffic data unrelated to the purpose of determining the popularity of web pages. There is no disclosure or suggestion anywhere in McKeeth and Tams that the network traffic data collected in Tams can be used to determine the popularity of the web pages. That the information extracted from the packets actually traversing the network is used to determine or indicates the popularity of the web pages is an actual claim element of

independent claims 12, 38, 43, and 48. Because such claim element is not taught or suggested by McKeeth and Tam, *prima facie* obviousness has not been established for independent claims 12, 38, 43, and 48. See MPEP §2143.03. See also *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970) ("All words in a claim must be considered in judging the patentability of that claim against the prior art.").

Furthermore, there is no motivation whatsoever suggested in Tams or McKeeth to use the network traffic probes of Tams in combination with the search engine of McKeeth to determine the popularity of a web site. Paragraph 4 of the Final Office Action states that there is allegedly motivation to combine the two references, merely stating, "[m]ckeeth teaches packets traversing the network since it is inherent that when a user clicks on a link, packets traverse the network. And Tams explicitly states packets traversing the network." However, that still falls far short of a motivation to combine McKeeth with Tams.

That McKeeth possibly involves packets traversing the network does not necessarily lead to a motivation to combine McKeeth with Tams to use the network traffic information collected by the network traffic probe of Tams in determining the popularity of a web page for McKeeth. In fact, there is simply no suggestion in McKeeth that information extracted from packets actually traversing the network may be used to determine the popularity of a web page. Rather, McKeeth teaches away of using such information extracted from packets actually traversing the network, since McKeeth teaches a number of different ways of determining the popularity of web sites, such as using counters located at the source search engine or destination web site, but never suggests the use of network traffic monitors for determining the popularity of a web page.

Likewise, there is simply no suggestion in Tams that the network traffic information collected by the network traffic probes can be used to determine the popularity of a web page.

In summary, Tams never suggests the desirability of using the network traffic information collected by the network traffic probes of Tams to determine the popularity of a particular web site, nor does McKeeth even recognize or suggest that it would be desirable to use the network traffic information collected by the network traffic probes in Tams to determine the popularity of a particular web site.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See *In re Mills*, 916 F.2d 680 at 682, 16 USPQ2d 1430 (Fed. Cir. 1990) (citing *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127)). Paragraph 8 on pages 4-5 of the Final Office Action merely conclusively states that “[i]t would have been obvious to one having ordinary skill in the art at the time of the invention to modify McKeeth to the search system comprising a plurality of monitoring devices placed in the network ...” However, a mere conclusive statement that modifications of the prior art to meet the claimed invention would have been well within the ordinary skill of the art at the time the claimed invention was made is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. See *Ex parte Levengood*, 28 USPQ2d 1300 (Bd. Pat. App. & Inter. 1993).

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth and Tams preclude establishing even a *prima facie* basis from which a proper determination of obviousness of claims 12, 38, 43, and 48 can be made. Therefore, it is

respectfully submitted that independent claims 12, 38, 43, and 48 are patentably distinct from McKeeth and Tams.

Claims 22, 26, and 27 depend from independent claim 12 and thus all arguments set forth above regarding claim 12 with respect to McKeeth and Tams are equally applicable to claims 22, 26, and 27. Thus, it is respectfully submitted that claims 22, 26, and 27 are also patentably distinct from McKeeth and Tams.

B. Rejections of claims 13-15 and 39-41 under 35 U.S.C. §103

In paragraphs 14-17 of the Final Office Action, claims 13-15 and 39-41 were rejected as being obvious over McKeeth and Tams as applied to claim 12, and further in view of Bharat (US Patent No. 6,526,440). This rejection is traversed.

Claims 13-15 and 39-41 depend from independent claims 12 and 38, respectfully, and thus all arguments set forth above regarding claims 12 and 38 with respect to McKeeth and Tams are equally applicable to claims 13-15 and 39-41. That is, both McKeeth and Tams fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claims 12 and 38 from which claims 13-15 and 39-41 depend. In addition, Bharat also fails to disclose or suggest determining the popularity of the web pages using the information extracted from the packets actually traversing the network, as recited in claims 12 and 38 from which claims 13-15 and 39-41 depend. In fact, the Final Office Action merely relied upon Bharat for the alleged disclosure of the page rank concept relevant to claims 13-15 and 39-41.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, and Bharat preclude establishing even a *prima facie* basis from which a proper

determination of obviousness of claims 13-15 and 39-41 can be made. Therefore, it is respectfully submitted that claims 13-15 and 39-41 are also patentably distinct from McKeeth, Tams, and Bharat.

C. Rejections of claims 16-17 under 35 U.S.C. §103

In paragraph 18-20 of the Final Office Action, claims 16-17 were rejected as being obvious over McKeeth and Tams as applied to claim 12 and further in view of Vo (US Patent Application Publication No. 2003/0229692). This rejection is traversed.

Claims 16-17 depend from claim 12, and thus all arguments set forth above regarding claim 12 with respect to McKeeth and Tams are equally applicable to claims 16-17. That is, both McKeeth and Tams fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claim 12 from which claims 16-17 depend. In addition, Vo also fails to disclose or suggest determining the popularity of the web pages using the information extracted from the packets actually traversing the network as recited in claim 12. In fact, the Final Office Action merely relied upon Vo for the alleged disclosure of placing the network monitoring devices in locations where aggregate traffic can be monitored or at a traversal point for monitoring complete bi-directional activity.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, and Vo preclude establishing even a *prima facie* basis from which a proper determination of obviousness of claims 16-17 can be made. Therefore, it is respectfully submitted that claims 16-17 are patentably distinct from McKeeth, Tams, and Vo.

D. Rejections of claims 18-20 under 35 U.S.C. §103

In paragraphs 21-24 of the Final Office Action, claims 18-20 were rejected as being obvious over McKeeth and Tams as applied to claim 12 and further in view of Pulley (US Patent Application Publication No. 2002/0087679). This rejection is traversed.

Claims 18-20 depend directly or indirectly from claim 12, and thus all arguments set forth above regarding claim 12 with respect to McKeeth and Tams are equally applicable to claims 18-20. That is, both McKeeth and Tams fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claim 12 from which claims 18-20 depend. In addition, Pulley also fails to disclose or suggest determining the popularity of the web pages using the information extracted from the packets actually traversing the network as recited in claim 12 from which claims 18-20 depend. In fact, the Final Office Action merely relied upon Pulley for the alleged disclosure of the specific types of information (e.g., URI or URL, client IP address, server IP address, host name, etc.) that are extracted from the packets.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, and Pulley preclude establishing a *prima facie* basis from which a proper determination of obviousness of claims 18-20 can be made. Therefore, it is respectfully submitted that claims 18-20 are patentably distinct from McKeeth, Tams, and Pulley.

E. Rejection of claim 23 under 35 U.S.C. §103

In paragraph 25 of the Final Office Action, claim 23 was rejected as being obvious over McKeeth and Tams as applied to claim 12 and further in view of Matsliach (US Patent No. 6,879,994). This rejection is traversed.



Claim 23 depends from claim 12, and thus all arguments set forth above regarding claim 12 with respect to McKeeth and Tams are equally applicable to claim 23. That is, both McKeeth and Tams fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claim 12 from which claim 23 depends. In addition, Matsliach also fails to disclose or suggest determining the popularity of the web pages using the information extracted from the packets actually traversing the network, as recited in claim 12 from which claim 23 depends.

In addition, claim 23 recites that “the processing module maintains a plurality of counters corresponding to a URL and increments a count of one of the counters if the extracted information indicates that the web page corresponding to the URL was visited by a client device located in a geographical location corresponding to the counter of which the count was incremented, the count indicating the number of visits to the web page from client devices in the corresponding geographical location.” The Final Office Action points to col. 16, lines 16-35 of Matsliach for the disclosure of this limitation. However, col. 16, lines 16-35 of Matsliach does not disclose or even mention maintaining multiple counters for different geographical locations and counting the number of visits to the web page from client devices in corresponding geographical locations as recited in claim 23. Indeed, col. 16, lines 16-35 of Matsliach does not even mention the term “geographical location” and has nothing to do with maintaining multiple counters for different geographical locations, but merely discusses a process for responding to a user query regarding popular web sites.

In paragraph 5 on pages 3-4 of the Final Office Action, the Examiner also appears to rely on col. 6, lines 50-51 of Matsliach as disclosing the limitations of claim 23. Col. 6, lines

50-51 of Matsliach merely states “User demographics: age range (and optionally, the exact age of the user), gender, nickname, user location (state), ...” Matsliach merely discloses maintaining such user data items corresponding to certain sites, but such user demographics information (including the user location) is manually input using the graphical user interface shown in FIGS. 4 and 5 of Matsliach (Site Location: UK or User Origin: USA). See col. 7, line 41 to col. 8, line 12 of Matsliach. Matsliach does not disclose or even suggest that the information extracted from the packets traversing the network indicates such geographic location information as recited in claim 23.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, and Matsliach preclude establishing even a *prima facie* basis from which a proper determination of obviousness of claim 23 can be made. Therefore, it is respectfully submitted that claim 23 is also patentably distinct from McKeeth, Tams, and Matsliach.

F. Rejection of claim 24 under 35 U.S.C. §103

In paragraph 26 on pages 14-15 of the Final Office Action, claim 24 was rejected as being obvious over McKeeth and Tams in view of Matsliach as applied to claims 12 and 23, and further in view of Pulley. This rejection is traversed.

Claim 24 depends from claim 23, and all arguments set forth above regarding claim 23 with respect to McKeeth, Tams, and Matsliach are equally applicable to claim 24. That is, McKeeth, Tams, and Matsliach fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claim 12 from which claim 23 and claim 24 depend. In addition, Pulley also fails to disclose or suggest determining the popularity of the web pages using the

information extracted from the packets actually traversing the network as recited in claim 12 from which claim 23 and claim 24 depend. In fact, the Final Office Action merely relied upon Pulley for the alleged disclosure of a distinct IP address.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, Matsliach, and Pulley preclude the Examiner from establishing even a *prima facie* basis from which a proper determination of obviousness of claim 24 can be made. Therefore, it is respectfully submitted that claim 24 is also patentably distinct from McKeeth, Tams, Matsliach, and Pulley.

G. Rejection of claims 21 and 25 under 35 U.S.C. §103

In paragraphs 27-29 on pages 15-17 of the Final Office Action, claims 21 and 25 were rejected as being obvious over McKeeth and Tams in view of Matsliach as applied to claims 12 and 23, and further in view of Sehm (U.S. Patent Application Publication No. 2005/0021731). This rejection is traversed.

Claim 21 depends from independent claim 12, and claim 25 is dependent from claim 23 which is in turn dependent from independent claim 12. Thus, all arguments set forth above regarding claims 12 and 23 with respect to McKeeth, Tams, and Matsliach are equally applicable to claims 21 and 25. That is, McKeeth, Tams, and Matsliach fail to disclose or even suggest determining the popularity of the web pages as indicated by the information extracted from the packets actually traversing the network, as recited in claim 12 from which claims 21 and 25 depend directly or indirectly. In addition, Sehm also fails to disclose or suggest determining the popularity of the web pages using the information extracted from the packets actually traversing the network as recited in claim 12 from which claim 21 and claim 25

depend directly or indirectly. In fact, the Final Office Action merely relied upon Sehm for the alleged disclosure of discarding packets relating to invalid URLs or automatically generated packets.

To establish *prima facie* obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. See MPEP §2143.03. The deficient disclosures of McKeeth, Tams, Matsliach, and Sehm preclude establishing a *prima facie* basis from which a proper determination of obviousness of claims 21 and 25 can be made. Therefore, it is respectfully submitted that claims 21 and 25 are also patentably distinct from McKeeth, Tams, Matsliach, and Sehm.

In summary, Appellants respectfully submit that the rejections of claims 12-27, 38-41, 43, and 48 are clearly erroneous for the foregoing reasons. Reversal of the final rejection of claims 12-27, 38-41, 43, and 48 is respectfully requested.

Respectfully submitted,

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## **Claims Appendix**

12. A search system for ranking Internet search results based upon popularity of web pages on a network, the search system comprising:

a plurality of monitoring devices placed in the network, the monitoring devices monitoring packets traversing the network and extracting information on the packets;

a processing module coupled to the monitoring devices and receiving the extracted information from the monitoring devices, the processing module analyzing the extracted information and determining the popularity of the web pages based upon the extracted information, the popularity of the web pages being proportionate to actual number of visits to the web pages as indicated by the extracted information; and

a search engine for receiving search terms and retrieving web pages containing the search terms, the search engine ranking the web pages at least in part based upon the popularity of the retrieved web pages.

13. The search system of claim 12, wherein the search engine ranks the retrieved web pages based upon the content of the web pages and the hyperlink structure linking the web pages as well as the popularity of the retrieved web pages.

14. The search system of claim 12, wherein the search engine propagates a score of a first web page to a plurality of second web pages to which the first web page is linked in proportion to the popularity of links from the first web page to each of the second web pages.

15. The search system of claim 12, wherein the search engine ranks a first retrieved web page in higher priority than a second retrieved web page if the popularity of the first web page is greater than the popularity of the second web page.

16. The search system of claim 12, wherein the monitoring devices are placed in locations where aggregate packet traffic may be monitored.

17. The search system of claim 12, wherein the monitoring devices are placed at a traversal point for complete bi-directional activity between a client device and a server on the network.

18. The search system of claim 12, wherein the monitoring devices extract the information from packets in a TCP session, and the extracted information includes:

- a requested URI or URL;
- a client IP address; and
- a server IP address and a server host name.

19. The search system of claim 18, wherein the extracted information further includes a referrer URL.

20. The search system of claim 18, wherein the monitoring devices analyzes the packets relating to GET Requests in the TCP session to extract the information.

21. The search system of claim 12, wherein the monitoring devices discard packets relating to invalid URLs, invalid GET Requests, requests from a web crawler, or auto-refreshment of previous TCP sessions in extracting the information.

22. The search system of claim 12, wherein the processing module maintains a counter corresponding to a URL and increments a count of the counter if the extracted

information indicates that the web page corresponding to the URL was visited, the count indicating the number of visits to the web page.

23. The search system of claim 12, wherein the processing module maintains a plurality of counters corresponding to a URL and increments a count of one of the counters if the extracted information indicates that the web page corresponding to the URL was visited by a client device located in a geographical location corresponding to the counter of which the count was incremented, the count indicating the number of visits to the web page from client devices in the corresponding geographical location.

24. The search system of claim 23, wherein the processing module increments the count only if the extracted information indicates that the web page was visited by the client device having a distinct IP address.

25. The search system of claim 23, wherein the processing module does not increment the count if the extracted information indicates that the packets were automatically and repeatedly generated by a computer.

26. The search system of claim 12, wherein the monitoring devices detect requests to stale web pages.

27. The search system of claim 12, wherein the monitoring devices detect pages unknown to the search engine.

38. A method for ranking Internet search results based upon popularity of web pages, the method comprising:

receiving a search term;

performing search of web pages on the Internet based upon the received search term;

retrieving a plurality of web pages containing the search term; and  
ranking the web pages at least in part based upon the popularity of the retrieved web pages, the popularity of the retrieved web pages being determined based upon information extracted from packets traversing the Internet and being proportionate to actual number of visits to the web pages as indicated by the extracted information.

39. The method of claim 38, wherein ranking the web pages comprises ranking the web pages based upon the content of the web pages and the hyperlink structure linking the web pages as well as the popularity of the retrieved web pages.

40. The method of claim 38, further comprising propagating a score of a first web page to a plurality of second web pages to which the first web page is linked in proportion to the popularity of links from the first web page to each of the second web pages.

41. The method of claim 38, wherein ranking the web pages comprises ranking a first retrieved web page in higher priority than a second retrieved web page if the popularity of the first retrieved web page is greater than the popularity of the second retrieved web page.

43. A search system for ranking Internet search results based upon popularity of web pages, the search system comprising:

a plurality of monitoring means placed in a network for monitoring packets  
traversing the network and extracting information on the packets;  
processing means coupled to the monitoring means for receiving the extracted  
information from the monitoring devices, analyzing the extracted  
information, and determining the popularity of the web pages based upon the



extracted information, the popularity of the web pages being proportionate to actual number of visits to the web pages; and

search engine means for receiving search terms and retrieving web pages containing the search terms, the search engine means ranking the web pages at least in part based upon the popularity of the retrieved web pages.

48. A search system comprising:

a plurality of monitoring devices placed in the network, the monitoring devices monitoring packets traversing the network and extracting information on the packets;

a processing module coupled to the monitoring devices and receiving the extracted information from the monitoring devices, the processing module analyzing the extracted information and determining the popularity of the links from a first web page to a plurality of second web pages based upon the extracted information, the popularity of each of the links being proportionate to number of times each of the links is actually traversed as indicated by the extracted information; and

a search engine for receiving search terms and retrieving web pages containing the search terms, the search engine propagating a score of the first web page to the second web pages to which the first web page is linked in proportion to the popularity of links from the first web page to each of the second web pages.

## **Evidence Appendix**

None.

## **Related Proceedings Appendix**

None.